DOCUMENT RESUME

ED 348 663 CS 011 017

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TITLE The Use of Keyboard Familiarization and Basic Word Processing in a First Grade Spelling Program.
PUB DATE Apr 92
NOTE 73p.; M.S. Practicum, Nova University.
PUB TYPE Dissertations/Theses - Practicum Papers (043) -- Tests/Evaluation Instruments (160)

EDRS PRICE MF01/PC04 Plus Postage.
DESCRIPTORS Class Activities; Computer Assisted Instruction; Grade 1; *Keyboarding (Data Entry); Learning Activities; Primary Education; *Spelling Instruction; Student Attitudes; *Word Processing

ABSTRACT

A practicum used the Keyboard Familiarization approach (introducing students to the location of keys on the computer keyboard) to integrate the computer into a traditionally taught first-grade spelling program, using laminated copies of the computer keyboard. After completing basic drill and practice sessions on the laminated keyboard, the 23 first-grade students began to practice spelling words on the computer in a computer lab setting. Results indicated that at the end of the 12-week implementation period, students: (1) became familiar with the location of the keys on the computer keyboard with 90% accuracy; (2) achieved 80% or higher in spelling based on the average of the weekly spelling tests; and (3) expressed a positive attitude toward the spelling program as measured by an informal attitude survey. (Eighteen references and seven appendixes--including teacher and student surveys and results, laminated keyboard, and the informal attitude survey and results--are attached.) (Author/SR)

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THE USE OF KEYBOARD FAMILIARIZATION AND BASIC WORD PROCESSING IN A FIRST GRADE SPELLING PROGRAM

by

April Joy Heath-Legg

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A Practicum Report

Submitted to the Faculty of the Center for Advancement of Education, Nova University, in partial fulfillment of the requirements for the degree of Master of Science.

The abstract of this report may be placed in a National Database System for reference.

April 1992

CS011017

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ABSTRACT

The Use of Keyboard Familiarization and Basic Word Processing in a First Grade Spelling Program.
Heath-Legg, April J., 1992: Practicum Report, Nova University, The Center for the Advancement of Education.
Descriptors: Computers/ Keyboard Familiarization/ Spelling/ Primary Education/ First Grade/ Basic Word Processing/ Brainstorming/ Critical Thinking/ Computer Lab/ Student Motivation/ Academic Achievement/

The intergration of the computer into a traditionally taught spelling program can significantly enhance student motivation, academic achievement and knowledge of basic computer processing skills in first grade students. Accomplishing this intergration can be done by using the Keyboard Familiarization approach to introduce students to the location of keys on the computer keyboard. The approach used in this practicum was achieved by using laminated copies of the computer keyboard. After having completed basic drill and practice sessions on the laminated keyboard, students began to practice spelling words on the computer in a computer lab setting. If a computer lab is not available, this procedure can be accomplished by using the laminated computer keyboards in the classroom. The objectives for this practicum indicate at the end of the twelve week implementation period of the computerized spelling program the students will: (1) become familiar with the location of the keys on the computer keyboard with 90 percent accuracy; (2) achieve 80 percent or higher in spelling based on the average of the weekly spelling tests; and (3) express a positive attitude toward the spelling program as measured by an informal attitude survey. The results of this practicum project indicate that each of the three objectives stated above were met successfully. It was concluded that the computerized spelling program used in this practicum can increase the motivation, academic achievement and knowledge of the computer keyboard and basic word processing for students in the first grade. Appendices include teacher and student surveys, laminated keyboard, and the informal attitude survey.

Authorship Statement

I hereby testify that this paper and the work it reports are entirely my own. When it has been necessary to draw from the work of others, published or unpublished, I have acknowledged such work in accordance with accepted scholarly and editorial practice. I give this testimony freely, out of respect for the scholarship of the other professionals in the field and in the hope that my own work, presented here, will earn similar respect.

Signed April Heath-Legg
April Heath-Legg

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CHAPTER I

Purpose

Background

The school setting for this practicum project is located in a large metropolitan city located in the southwestern part of the United States. The district is spread over 98 square miles. In 1919 this district was predominantly an elementary school district. In 1959 high schools were introduced into the district. It was not until 1976 that the district was officially a unified school district. The community population is approximately 200,000 people. It is presently the second largest school district in the metropolitan area and the third largest in the state. The total student enrollment in the district is approximately 26,000. The approximate number of school lunches that are served each year is 2,237,600. The district owns and operates 98 buses and travels 7,060 miles daily. There are 20 elementary schools; four middle schools; three high schools; one alternative high school and one special

education center. The maximum student/teacher ratios are: 25:1-kindergarten; 27:1-first grade; 29:1-second and third grade; and 32:1 fourth, fifth and sixth grades. The district staffs approximately 1,350 certified employees and 1,150 classified employees. Despite the slow growth around the state, the district continues to produce a student growth rate of 2.8 percent. The present daily estimated cost per student is $30.15.

This project focuses on the elementary setting. The school itself is one of the older in the district having opened in 1976. It houses grades kindergarten through sixth. The approximate student enrollment is 736. Students are required to study art, music, computers and physical education. In grades four through six, students are also offered the opportunity to study band and strings if so desired. The socioeconomic levels of students attending this school consists of middle income to lower income families.

The ethnic/racial makeup of this school is as follows:

1.9% American Indian or Native Alaskan
1.8% Black or not Hispanic Origin
7.8% Hispanic Origin
0.4% Asian or Pacific Islander
88.1% White, or not Hispanic Origin.

The student enrollment and number of classes are as follows:

Kindergarten = 101 students in five classes
First grade = 113 students in five classes
Second grade = 114 students in four classes
Third grade = 107 students in four classes
Fourth grade = 103 students in four classes
Fifth grade = 93 students in four classes
Sixth grade = 105 students in four classes.

There are currently 38 certified employees working in the school setting. This includes two physical education teachers, one art teacher, one music teacher, one speech teacher, one librarian, and one honors teacher. There are 14 aids; two food service workers; four custodians; two office secretaries; one psychologist; one nurse; and one administrator.

The implementor of this project teaches first grade. The author has been employed in the school district for four

years. All of those years have been completed at the location of the practicum school, teaching each year in the first grade. The practicum target group consists of a total of 23 first grade students. All 23 of the students are currently enrolled in the author's classroom. Each of these 23 students will be included in the proposed practicum project. The students complete all academic areas in the home room being taught by the author. Students leave only for lunch and special area classes each day. Special area classes are held for 45 minute periods. Lunch is 35 minutes in duration. The full school day runs from 7:30 A.M. to 2:30 P.M. .

Problem Statement

Throughout the teaching career, this author has observed that first grade students find it difficult to maintain the interest and motivation necessary to study and master basic weekly spelling words so that the beginning spelling scores for the first twelve weeks of spelling are not all passing

scores, or at least 80 percent or higher for each student. In 1988-89 17 percent of the students in the author's class did not achieve 80 percent or higher on the first twelve weeks of spelling grades. In 1989-90 26 percent did not achieve at least 80 percent. In 1990-91 18 percent of the students did not meet the passing score of 80 percent or higher. By gathering and comparing weekly spelling scores from the past three years, and observing students attitude, the author has found that it is during these first few weeks of the formal spelling program in which the students form an understanding about the spelling program and an attitude toward the subject is shaped. The author has continually worked with the spelling program, changing some of the methods used and expectations each year in order to meet the needs and abilities of the students while at the same time, maintaining a spelling program which meets the expected outcomes that are set by the school district's scope and sequence for first grade exit skills.

To validate the author's existing findings and beliefs, a spelling survey was distributed to all primary teachers in the practicum school setting to determine additional data about student attitudes toward spelling, overall student academic achievement, and teacher opinions on the possibility of successfully intergrating the computer into the existing spelling program (Appendix A:58). The results revealed that 77 percent of the teachers surveyed have observed that students appear to be motivated toward the subject spelling (Appendix B:61). In addition, over half, 53.9 percent of teachers surveyed indicate that overall student academic achievement scores were not adequate based on the school district's scope and sequence. When questioned on the use of computers intergrated into the existing spelling program, 53.9 percent of the teachers believed that student motivation and spelling academic achievement could be enhanced. The results found that 100 percent of the teachers surveyed are not using any

computer assistance or intergration into the current spelling program.

To further validate this author's beliefs about student attitude toward spelling, an additional student survey was distributed to all second and third grade students to determine students' feelings on the topics of spelling and computers (Appendix C:63). The results indicated that 55 percent of the students polled stated that the subject spelling was liked (Appendix D:65). The remainder, nearly half, 45 percent of the students polled stated that the subject spelling was not liked. In addition, when asked to indicate the school subject liked the best, only 17 percent of the students polled chose spelling as the subject that was most favored. Additional information that was obtained from the student survey indicated that 99 percent of the students liked computers. If given the opportunity, 89 percent of the students would like to use the computer to practice the spelling words (Appendex D:65).

Primary students should be given the opportunity to experiment with the use of computers. While doing this, weekly spelling words could be practiced. The students overall interest would be increased toward the computer and the subject being practiced. If done in this manner, overall weekly spelling scores could be improved. Based on the above findings and expectations, this practicum writer used a variety of computer related activities to supplement and enhance the existing spelling program. Keyboarding familiarization and basic word processing were used to improve weekly spelling scores and student motivation toward spelling.

The target group was heterogeneous in nature and comprised of 13 boys and 11 girls. The comparison group was scores obtained from the past three years of this authors first grade spelling program. As indicated at the beginning of the problem statement, in 1988-89, 17 percent of the first grade students did not achieve an average spelling grade of at least

80 percent or higher at the end of the first twelve week period. In 1989-90, 26 percent of the students did not achieve a spelling average of at least 80 percent or higher. In 1990-91, 18 percent of the students did not average a spelling score of a least 80 percent or higher. The most recent set of scores 1990-91 are ones in which the identical spelling words were used as the ones which were used throughout this practicum project.

Outcome Objectives

With the intergration of the computer into the existing spelling program, the implementor expected to see a much larger number of students successfully passing and achieving the 80 percent or higher grade expectant at the end of the first twelve weeks of the 1991-92 spelling program. In addition, the implementor expected that student interest and motivation toward spelling would be increased. This program used computers to supplement and enhance the traditional

approach to teach spelling. The computer intergration allowed students to receive additional time at school to practice weekly spelling words. The approach using computers is one in which students in the target school site have expressed an interest. As a result of the computer intergrated spelling program, more students would be able to achieve the expected 80 percent passing grade by the end of the first twelve weeks.

After taking part in a 12-week spelling program with computer intergration, the target group was expected to accomplish the following objectives:

1. The target group was to become familiar with the location of the keys on the computer keyboard with 90 percent accuracy based on scores obtained from a pre and post test given at the beginning and the end of the 12 week period.

2. The target group was to achieve 80 percent or higher in spelling at the end of the first twelve weeks of school based on the average of weekly spelling tests.

3. Eighty percent or higher of the target group was to express a positive attitude toward the spelling program as measured by an informal attitude survey given to the target group at the end of the 12 week period.

4. In order to promote critical thinking, each student in the target group was to participate in a weekly brainstorming session that provided four to five sentences for each weekly spelling word as measured by teacher observation.

CHAPTER II

Research and Solution Strategy

Educators today have become excited about the entry of computers into the classroom, especially in terms of the potential computers have for improving the academic progress of students. It has been estimated that over 96% of all public schools have installed microcomputers (Watkins, 1989). With this statistic in mind, one might ask how educators are using these millions of computers to enhance the education of students. Computer Assisted Instruction (CAI) and Keyboard Familiarization are two ways in which the computer can be utilized by teachers and students in the classroom.

There is no question that spelling is a very important part of daily life. It counts at school, work, in books, magazines, newspapers and even personal letters. If a student hands in a paper with numerous misspelled words, the teacher

might choose to fill it with marks and ask that the assignment be redone. The question of which technique is best to teach spelling is one that educators debate frequently. Most students with good visual skills will benefit from the traditional spelling approach almost naturally. However, there are a number of other students who might not find the traditional approach to spelling a successful one. For many of these underachieving or special needs students this technique is not good enough. As one author states, "These children need a multi-pronged approach to spelling-one that teaches spelling strategies and uses each student's auditory and visual skills to the upmost" (Eiser, 1989: 60). As the following research indicates, CAI can be used for all students to enhance and improve spelling achievement and at the same time provide enjoyment.

A study conducted on CAI in spelling was done in 1986 at Austin Peay State University. It was conducted on fourth and fifth grade students to compare the achievement scores of

students receiving traditional spelling instruction to achievement scores earned with computer aided instruction. In addition, student attitude measures were compared for the same subjects. This study was based on two 5 week periods of evaluation. The authors hypothesized that there would be no significant spelling achievement differences on the scores of the students receiving computer aided instruction and those of students receiving traditional instruction (Gore, 1986). In addition, it was hypothesized that there would be no significant difference between the two groups on the measure of attitude toward spelling (Gore, 1986).

The students were measured for the first five week session using the traditional spelling approach. In the second five week session, the students used the CAI approach to learn the spelling words. The results of this study did not support the original hypothesis on spelling achievement. Instead, the authors found that overall student academic achievement improved with CAI (Gore, 1986). However, the hypothesis on

attitude was correct. There was no statistically significant change in the attitude of students toward spelling (Gore, 1986). However, it should be noted that the students, in general, expressed positive attitudes toward spelling, both at the beginning as well as the end of this study (Gore, 1986). In addition, the authors found that students worked independently, gained computer literacy, became more proficient at using the keyboard and were highly motivated to study spelling using the computer (Gore, 1986).

Another study conducted by Demshock and Riedesal in 1968 used CAI to teach spelling to sixth graders. The purpose of this study was to develop and demonstrate the use of a CAI spelling program. Both public and private school sixth grade students actively participated. The findings here suggested that elementary school students at the sixth grade level readily and eagerly accepted instruction by computers (Demshok, 1968). Learning to use the computer was quickly accomplished, and only when there was a problem with the

hardware did teacher assistance take place. Another result of the study indicated that there were variations in the amount of academic achievement among students participating. There were some indications that the low achievers seemed to profit the most from computer aided instruction (Demshock, 1968). The findings of this study, concerning attitudes toward computer assisted instruction, match and support those of the previously discussed study conducted at Austin Peary State University. The sixth grade students who participated finished with a positive attitude toward CAI and spelling (Demshock, 1968).

As previously discussed, Demshock and Riedesel found in 1968 that low achieving sixth grade spellers seemed to benefit the most from CAI. There is more evidence to support these findings, which was documented in a 1984 study on low achieving first grade students. Teague, Wilson, and Teague (Teague, 1984) directed a study at Prince George's County Public School in Maryland. Seven single case experiments were

conducted with first grade students who were experiencing difficulty remembering spelling words. The students were monitored to determine whether CAI could improve spelling accuracy. Spelling instruction was given four days a week, and on the fifth day a test was administered over the weekly words. On day one, the ten weekly spelling words were introduced to the entire class by the teacher. On day two, the traditionally taught students copied the words on paper in alphabetical order. At this point, the seven low achieving "intervention" students used the computer program MAGIC SPELL to unscramble the spelling words and then type them in the correct order. On day three, the traditionally taught students unscrambled the spelling words and or found them in a hidden word search game. At the same time, the seven intervention students were using the program WORDS FAIR to type missing spelling words into the correct places in predetermined teacher constructed sentences. On day four, while the traditionally taught students were writing each

spelling word in a sentence, the CAI students were typing the spelling words on the computer after each word flashed up on the screen for five seconds. On day five, the entire class took a written spelling test given by the teacher in the traditional manor.

The findings of this study indicated in all but one of the seven single case experiments, an educational change was judged to be significant (Teague, 1984). Only one student did not improve the overall spelling average after the CAI was administered. Because of this, the authors of this study state, "it is important to understand that CAI is not appropriate for all students, and may even be counter productive in some situations" (Teague, 1984: 33). This study also supports other research findings on the issue of student attitude. The authors found that the first graders were eager to use the computer to learn spelling words and students expressed preference for this approach over the normal classroom instruction (Teague, 1984).

In 1989 Marley Watkins monitored the achievement of 215 learning disabled elementary education students. For one year, 126 students received CAI in math and spelling. The additional students were taught in the traditional manor. Watkins found that the students expressed significantly more positive attitudes toward academic work on the computer than toward similar academic tasks done in the traditionally taught classroom (Watkins, 1989). In addition, students reported more favorable attitudes toward math and spelling than did students who did not actively participate on the computer (Watkins, 1989).

In recent years, reconsideration of spelling instruction has suggested ways in which spelling can be made easier for the elementary school student. CAI is one way in which spelling can be supplemented and/or taught independently depending upon the age and ability of the student. A first grader might benefit from a combination of CAI and the traditional approach to teach spelling due to the amount of

reading that might be involved to operate the computer program. However, as Demshock & Reidesel have found in the study, sixth grade students can benefit from CAI independent from the traditional instruction. Given this opportunity, a teacher could have more time to focus lessons on other subjects or work with individual students as needed.

Computer keyboarding is yet another area that can be used by educators to supplement and enhance a spelling program. When computers are used by elementary aged students, questions about keyboarding invariably arise. Issues relating to the age and grade level at which students should be formally taught keyboarding, if at all in the elementary schools, are currently being debated among educators. There is a disagreement among educators about how young students should acquire standard keyboarding techniques. Some educators believe that young students should learn to use the proper fingers on the keys from the beginning of the keyboarding experience. Other educators believe that young

students will not do enough keyboarding to make a difference and that hunt-and-peck keyboarding is acceptable (Irwin, 1987). It is debated among educators that the problem with the hunt-and-peck method is that if students are allowed to learn keyboarding incidentally, they will also learn bad habits which may turn out to be irrevocable (Kahn, 1990). Some educators believe that in the future bad habits caused by the hunt-and-peck method may have a negative impact on a student's ability to learn proper keyboarding skills (Britten, 1988). On the other side of the debate are those educators who do not believe that keyboarding should be taught in the elementary schools. They believe that if students are given keyboarding instruction as a pre-requisite for word processing, creative writing, and basic drill and practice exercises on the computer, it may turn students away from wanting to use the computer as a useful tool.

Research has revealed alternative ways in which keyboarding can be introduced to students which concentrate

on keyboarding familiarization. Educators can teach the location of keys without placing an emphasis on the correct fingering. This approach was successfully documented in a study conducted at the University of Pennsylvania. Two elementary teachers and 3rd and 4th grade students participated in this research. At the beginning of the school year, each student was given a laminated photocopy of an IBM keyboard. A giant facsimile of the keyboard was also placed in the front of the classroom for teacher demonstration. Five to ten minute lessons at the beginning of each day were conducted to familiarize students on the location of keys. Each student used the photocopyed keyboard to pretend type ten words per day and a few sentences which were introduced by the teacher on the chalkboard. The teachers explained that learning the keyboard was the personal responsibility of each student, and that this learning process would make it easier for the students to use the computer (Kahan, 1990). After six weeks of instruction, both teachers felt that the students had become

comfortable enough with the location of keys on the computer to successfully write stories and generate text directly into the computer. In addition, the teachers found that the students participating were able to find the keys fairly quickly (Kahn, 1990).

Other studies have reviewed the use of touch screen versus the keyboard. A study conducted on this issue was done on 80 kindergarten students in five Indianapolis schools. Two computer-mediated tasks were performed by each student. The first task consisted of matching uppercase alphabet letters presented on the monitor. This could be accomplished by either pressing the appropriate key on the keyboard, or touch the letter on the screen. The second task required the students to learn how to spell French words for several numerals under ten. Again, students could either touch the answers on the keyboard or on the monitor. The answers were set up to be self monitoring. Color changes were flashed on the monitor for wrong answers, and happy faces appeared on the screen for

correct answers. The results of this study indicated that the use of touch-sensitive screen significantly improved task performance of the kindergartners. The young students in this study found the touch-sensitive screen easier to use than trying to locate the keys on the traditional keyboard (Battenberg, 1989).

Studies which support the teaching of proper keyboarding techniques are numerous, and all emphasize the importance of formal instruction. Anderson-Inman, who is an educator, states that, "Keyboarding should not be viewed as a subject, but rather as a skill that is useful for learning other subjects" (Anderson-Inman, 1990: 36). Anderson-Inman also believes that keyboarding be taught and used "across the curriculum" much in the same way that reading and writing are integrated throughout the entire curriculum. Keyboarding and word processing have been linked together frequently. Some educators believe that because of this, the purpose of keyboarding is to educate the students about proper

keyboarding techniques so that they will benefit from the use of word processing (Anderson-Inman, 1990).

In a keyboarding study in 1986 by 15 business education teachers was conducted at Robert Morris College in Pennsylvania. Twenty 4th, 5th and 6th grade students enrolled in a lab at the college were the participants of this study. The students in this study were children of the staff and faculty at the College. The goal of the study was to introduce the alpha keys in ten hours of computer assisted instruction on proper keyboarding techniques. One important task of the 15 business teachers conducting the research was to monitor the students fingering techniques, and help them to unlearn bad habits they had previously learned by using the hunt-and-peck method (Morrison, 1986). As a result of the study, the researchers suggest that keyboarding should be taught by people who are trained in teaching the proper keyboarding techniques. Such as business education teachers. It was also suggested that instruction should begin no earlier than fourth grade, due to the

fact that younger children do not have large enough hands to master the reaches of the touch system (Morrison, 1986).

In 1988 Britten reviewed the above study conducted by Morrison in 1986. Britten began to question Morrison's research findings on the age at which proper keyboarding techniques could successfully be taught. This questioning was based on a lack of data on the effects of keyboarding instruction on primary-aged students, and Britten investigated whether students in Grade 2 could improve the keyboarding skills more from specific keyboarding instruction than from regular but casual keyboarding use (Britten, 1988). Britten conducted a study on thirty-nine 2nd Grade students. The experimental group was given a six week formal typing program on the computer keyboard. The control group received regular computer use in the classroom, but had no formal training in keyboarding instruction. The results were determined by the improved keyboarding skills of the students and the ability to type more quickly while maintaining a

consistent accuracy rate. At the end of his study, Britten found that keyboarding instruction can be effective in improving the keyboarding abilities on 2nd Grade students (Britten, 1988).

Keyboarding research on younger students has been documented as well. In 1989 McClendon successfully taught keyboarding to First Grade students to supplement and enhance the spelling curriculum. To do this, the text *Keyboard Success* was used (Fidanque, et al., 1988) for the keyboarding component of instruction. Materials included a large wall chart of a keyboard, laminated desk size keyboard templates, teacher and student manuals of the *Keyboard Success* text, overhead transparency of the Apple IIe keyboard, an ABC mastery coloring chart, and finger naming charts for each student. Learning took place at the students desks due to the fact that students had access to only one computer. The entire *Keyboard Success* program was taught from September to January before the skills were introduced into the spelling

curriculum. McClendon found that first grade students who learned to keyboard had an increase in motivation to learn spelling. In addition, spelling achievement improved significantly for low achieving students when keyboarding was added to the spelling instruction (McClendon, 1989).

The debate about whether or not, and when to teach formal keyboarding techniques in the elementary schools continues to be an issue among educators today. Research has been documented on both the pro's and con's of keyboarding instruction with young students. The decision of formal keyboarding in the elementary schools lies within the school district, administration and or the individual teacher. Research indicates that if formal keyboarding is to be taught to students, it should be done by someone who has been trained in keyboarding instruction (Morrison, 1986). However, students can be introduced to and familiarized with the keyboard by any educator who is interested in and willing to take the time to implement keyboarding familiarization into the existing

program. Research indicates that this method can be used successfully with students of all ages (Kahn, 1990). For those students who are at least familiar with the keyboard and the location of keys, it is likely that they will experience a more positive and successful time when using the computer.

Educators have become increasingly aware of the need for instruction in thinking skills. It has been demonstrated that the skill of thinking does not come with a certain age, but needs to begin and develop early (Ehli, 1990). Primary educators can begin to teach critical thinking skills at an early age.

Brainstorming is one approach that can be used by educators to develop and create an atmosphere which encourages creative thinking in the classroom. It can be used effectively to generate a large number of ideas from a group of any size. In the classroom, ideas can be shared without the fear of criticism from others. In addition, brainstorming can provide the opportunity for students to build on each others ideas.

Brainstorming has been used extensively in whole language classrooms, to allow students the opportunity to contribute to class discussions (Ferguson, 1988). In a brainstorming session, a group attempts to find a solution for a specific problem by spontaneously gathering as many ideas to the problem from members within the group. It is recommended for any situation when the generation of ideas will be beneficial to the solution of the problem (Pinkston, 1981).

Brainstorming sessions should be informal so that all participants are relaxed and in an atmosphere which allows each member to be as open as possible. As students make contributions to the brainstorming sessions, instructors may choose to record some of the information that has been generated. Used in this way, brainstorming can serve as a diagnostic tool (Ferguson, 1988). Instructors can listen to what the students are saying and evaluate information that is misunderstood or incorrect. This will provide educators with

the opportunity to plan additional activities to reteach if there is a need to do so.

Brainstorming activities are a very effective way to introduce students to the writing process. Using this prewriting activity students are given the opportunity to make their ideas known without any value judgements being made about the quality of their ideas. Brainstorming is a commonly used technique for idea-gathering. It has been found to be so common, that many adults often use it unconsciously (Tompkins, 1988). However, students need to be given the opportunity to experiment with this technique to learn how to use it effectively. Once students have learned how to use brainstorming, it is likely that brainstorming will be used for a variety of other activities.

SOLUTION STRATEGY

Based on the research, the implementor of this practicum proposal held that the best solution was to teach spelling by

integrating the computer into the existing curriculum. According to Eiser (1989), students who have special needs benefit from a spelling program that offers strategies which use student's auditory and visual skills. The computer is one way that this can be done successfully in a spelling program. As an educator of first grade students, this author has observed that all students benefit from teaching approaches which use as many auditory and visual skills as possible.

The goal of this practicum proposal was to use the computer to enhance the existing spelling program. This approach provided students with the opportunity to develop a basic understanding about word processing and keyboarding familiarization. The final result was to be the students' development of a positive attitude toward spelling and the improvement of individual spelling averages.

This goal was supported with a study done by Gore in 1986 where the results found that students academic scores improved using a computer assisted instruction approach.

Further research done by Demshock and Riedesel (1968) supported that the computer could be used successfully to improve both student attitude and student academic achievement in a spelling program. In 1989 a study done by Watkins found that students expressed more positive attitudes toward academic work done on the computer than toward similar academic tasks done in the traditionally taught classrooms.

The approach of this practicum proposal was to integrate the computer into the existing spelling program by teaching basic word processing and keyboarding familiarization to the target group. In 1990 Kahan found that students were able to successfully locate the keys on the keyboard and generate text directly into the computer using the keyboard familiarization technique.

Weekly practice on spelling words was done by students both on the computer and on individual laminated keyboards in the classroom. Students went into a computer lab

one time a week for approximately 45 minutes. Each student had access to an individual computer at that time. In addition, daily practice was done in the classroom on laminated keyboards. A similar approach was taken by McClendon in a 1989 study in which the computer was successfully integrated into the spelling program of First Grade students. Laminated keyboards were used due to the fact that only one computer was available for student use. The results of this study found that students who learned to keyboard had an increase in motivation. In addition, McClendon found that the overall academic achievement for low achieving students improved significantly.

By having given students in the target group the opportunity to practice spelling using the computer, this author expected to find that students would achieve an academic average of 80 percent or higher at the end of the 12 week period. In addition, students would become familiar with the computer keyboard, basic word processing and the

computer lab setting. Finally, this author expected to find that students would develop a positive attitude about the computer and the spelling program.

CHAPTER III

Method

The spelling program which was supplemented with computers that this author used in the practicum project is intended to familiarize first grade students with some basic information about computers. It also provided students with the opportunity to learn the location of the alphabet on the computer keyboard. In addition, this practicum project provided an opportunity for students to experience a spelling program in a manner which was new and different from any other approach that had previously been presented by this author or any other instructor currently employed in the primary grades at the practicum school site. The intent of this practicum project was to improve weekly spelling averages in comparison with the spelling scores obtained from the past three years from this author's spelling grades which were reviewed and averaged at the end of the first

twelve weeks of the spelling program. In addition, this author predicted that student motivation toward spelling and the attitudes of students would be increased in a positive manner due to the computer being introduced into the spelling program. These goals were to be accomplished by providing students the opportunity to interact individually and practice the weekly spelling words on the computer in a computer lab one time a week. In addition the students used a laminated facsimile of a computer keyboard to practice their weekly spelling words and to learn the location of the keys on the computer keyboard daily in the classroom. Students were exposed to some aspect of the computer five days a week in the beginning of this practicum project, and no less than four times a week toward the end.

The implementation of this project began by administering a pre-test to all students enrolled in the author's first grade classroom at the beginning of the school year. The pre-test was administered to determine whether

students had any knowledge of the location of the keys on a computer keyboard. The pre-test was distributed on the first day of implementation of this project. It was given in the following manner:

Each student was given a copied xerox paper with the computer keyboard on it (Appendix E:67). The author distributed a box of crayons to each student. The crayons all contained the same 8 colors. The author then explained to the students that they were going to be looking for some letters of the alphabet on the computer keyboard in front of them. When and if they could find the letters, the students should listen carefully and do what the instructor told them to do. A total of sixteen letters were tested to determine if students were familiar with the location of the keys on the computer keyboard. The instructor began by holding up the color of crayon that the students would use and simultaneously name that color. This was done in order to validate the test results. This was necessary because

these students had not been tested on the knowledge of color words at that time in the school year. The instructor then stated: "Look for the letter 'A.' When you have found it, color in the box that has the letter 'A.'" The instructor gave each student 20 seconds to locate and color in the key that was indicated. The instructor continued with fifteen other letters of the alphabet in the same manner. After having used all of the 8 crayons in the box, the instructor explained to the students that they must listen carefully for new directions. The instructor explained to students by demonstrating on the chalk board that the next letter they were looking for, they would NOT color in the box. But rather, they would put an "X" through the box in the designated color. The author asked questions to make sure that the students understood the change in directions. The test continued in the following manner. "Find your red crayon and hold it up in the air. Now find the letter 'Z', and put an X through the box. DO NOT COLOR THE BOX IN. JUST PUT AN 'X' through it." The

author walked around the room to make sure that all students understood the new direction. When the pre test had been completed the test was collected and scored on a percentage basis. The identical test was administered on the last day of this practicum project.

The first three weeks of this project was devoted to familiarizing the students with the computer and the location of keys on the computer keyboard. A large version of the computer keyboard was located in the front of the classroom for the introduction of the keys and the teaching of daily lessons. Daily drill and practice was done on laminated keyboards to familiarize students with the location of keys. The students' individual laminated keyboards were color coded to show the difference between proper left and right hand placement only . Students were taught and requested to use the correct hand as shown on the keyboard. Students were allowed to use any finger or fingers on each hand that they felt most comfortable with. This

procedure was determined because research findings have suggested that first grade students do not have hands large enough to master the correct keyboard fingering at this time in the life.

The letters on the keyboard were introduced to students in alphabetical order. The letters were introduced two keys at a time. Each day ten minutes of drill and practice was given. As new letters were introduced, the drill was conducted in the following manner. The instructor distributed the laminated keyboards and said: "Type A. Type C. Type A. Type F. Type C. Type A. Type B. Type Space Bar. Type G. Type return. Etc.. ."

The entire alphabet was introduced and daily drill and practice continued for at least ten minutes a day. The instructor then began having the students type words that were familiar to them such as individual names and some beginning reading words.

At the beginning of the fourth week, the formal spelling program was introduced. For the remainder of the practicum project the spelling program was performed in the manner described in Week Four of the following outline of practicum weekly events.

Week One: 1. Pre-Test

2. Keyboard familiarization drill and practice. 10 minutes per day.

Week Two: 1. Keyboard familiarization drill and practice. 10 minutes per day.

Week Three: 1. Same as week two.

Week Four: Formal Spelling Program Begins.

Day One:

1. Drill and practice on keyboard.

2. Introduce the 5 weekly spelling words. As a group, students assisted the instructor in phonetically sounding the spelling words out while the instructor wrote the words on

the chalkboard. All of the spelling words were words which contain only the phonetic sounds that had been introduced to the students in the formal reading program which is used uniformly in all of the classrooms in the practicum school site.

3. Students were asked to volunteer to use each of the spelling words in a sentence verbally.

Day 2:

The students went into the computer lab located in the practicum school and each student had access to an individual computer terminal. The students used the software Apple Works. On the initial week of the spelling program the instructor gave a lesson on the computer lab and the software that was used. Students began each session on the computer by having a drill and practice exercise on the location of the keys on the keyboard. The exercises were conducted in the same manner that was given using the

laminated keyboards in the classroom. (Example: "Type 'A,' Type 'C,' Type 'S,' etc...").

After the short keyboaring drill and practice lesson, the instructor asked the students to listen carefully because they were going to sound out and type the first spelling word for the week together on the individual computers. The instructor proceeded by verbally stating the first spelling word and used it in a sentence. At that time, cooperatively all of the students helped the instructor to phonetically and verbally sound out the letters of the spelling word indicated. The instructor continued by asking each student to type the spelling word one phonetic sound at a time on the computer screen. Each student continued by typing the spelling word five times in succession. The instructor monitored and assisted students as needed.

The remainder of the computer lab session was conducted in the same manner. Students sounded out and typed the spelling words into the computer and viewed

them on the screen. The instructor asked students to look at the screen and check the spelling to make sure that the words were being spelled correctly. The computer sessions were conducted one time per week held for a duration of 40 minutes. This session continued weekly throughout the remainder of the practicum project.

Day three:

1. A practice spelling test was given to the entire class. This test was given on the spelling words which were introduced on Day One. The students who received 100 percent on the practice test were not required to take the final test for the week which was given on day five.

2. Drill and practice on the keyboard was conducted to review the location of keys for 10 minutes.

Day four:

1. In order to enhance critical thinking, students participated in a whole group activity by demonstrating knowledge of the proper use of the spelling words by

bainstorming a variety of sentences using each word. All sentences were accepted as correct by the instructor. Together, the class came up with four to five sentences using all of the weekly spelling words. The instructor wrote each sentence on the board. When the spelling word was written on the board, collectively the students verbally told the instructor how to spell the word correctly.

2. Students wrote the spelling words two times each on paper.

3. Students typed the spelling words on the laminated keyboard during a drill and practice session.

Day five:

1. Final spelling test. The test was given on the weekly spelling words to all students who did not receive 100 percent on the practice test given on day three.

2. Drill and Practice Session.

Week 5: Same as week 4.

Week 6: Same as week 4.

Week 7: Same as week 4.

Week 8: Same as week 4.

Week 9: Same as Week 4.

Week 11: Same as week 4.

Week 12:

1. Daily spelling procedures were the same as Week four.

2. The post-test on alphabet familiarization was administered.

3. An informal attitude survey was given to the students about the computerized spelling program.

4. Students weekly spelling scores were averaged and compared with the scores from the past three years obtained from the author's first grade classes. This was done to determine if the computer did in fact improve the average scores for students participating in the newly developed spelling program which incorporated the computer.

CHAPTER IV

Results

The objectives for this practicum proposal were measured in the following manner:

Keyboard accuracy was measured on scores obtained from a pre and post test. The target group was expected to achieve 90 percent accuracy or higher on the location of keys on the computer keyboard. The target group was taught key location on the computer keyboard by using individual laminated keyboards. Students were introduced to, and encouraged to use the correct hand placement, left and right, for each key on the keyboard. Formal keyboarding instruction was not be presented. The final measurement of success for this objective was determined by the students knowledge of the location of keys on the computer keyboard at the end of the 12 week period.

The results for the objective on Keyboard accuracy revealed that 65 percent of the students passed the 90 percent expected accuracy score on the pre test. At the end of the twelve week implementation period the post test scores indicated that 91 percent of the students achieved 100 percent on the keyboarding accuracy post test. In addition, the two students which made up the additional eight percent of the class are currently waiting final testing for placement in special education classes.

Academic achievement was measured on a percentage basis. The target group was to achieve 80 percent or higher in spelling based on the average of individual weekly spelling test scores. The weekly spelling tests began with a total of five words each. At the end of the 12 week period the instructor gathered all scores from weekly spelling tests. The averages were calculated, and the success was measured on the basis of an 80 percentage accuracy or higher from each student in the target group.

The results for the objective on academic achievement indicate that 87 percent of the target group achieved the expected spelling average of 80 percent or higher. Of those 87 percent, 30 percent achieved a 100 percent spelling average. Additionally, one of the three students which made up the remaining 13 percent of students who did not achieve the expected 80 percent accuracy rate, has been placed in special education classes for reading, math and language arts. The remaining two students who did not achieve the 80 percent accuracy rate are currently waiting for final testing for the placement in special education classes due to low achievement in all academic areas and the lack of basic readiness skills. One of these two students is also currently be tested for attention deficit disorder.

Student attitude was measured by a survey distributed to each individual in the target group. Eighty percent or higher of the students were expected to express a positive attitude toward the spelling program as measured by an

informal attitude survey which was given to the target group at the end of the 12 week period. The instructor distributed a prepared xeroxed paper to the students for individual responses (Appendix F:69). The students responded to the questions by circling a happy face or a sad face. This survey was given orally by the instructor. The instructor conducted the survey in the following manner:

The students were asked to circle a happy face or a sad face to each question:

Questions:

1. I like going to computer class.
2. I like practicing my spelling words on the computer.
3. I would like to continue to practice spelling on the computer in the second grade.

The instructor collected, counted and calculated student responses to the above questions. The success was determined on the basis of 80 percent or higher of the target group responding with a positive attitude toward the computerized spelling program.

The results on student attitude revealed that 91 percent of the target group liked to go to computer class. Eighty-six percent liked to practice the spelling words on the computer. In addition, 91 percent indicated the desire to continue practicing spelling on the computer in the second grade (Appendix G:71).

Brainstorming was measured by teacher observation. Each week students participated in a whole group brainstorming session of coming up with sentences using each spelling word. The author of this project mentally skipped around the room every other student making sure that each student had the opportunity to participate in this activity. All answers were accepted as correct during these sessions. Four to five sentences were informally agreed upon by the students and teacher as good examples of sentences using each spelling word. These sentences were wrote on the chalk board and as a group students told the teacher how to spell the spelling word before it was written on the board.

The results for each of the stated objectives was successfully met for this practicum project. Students' knowledge about computers and basic keyboarding was heightened. Additionally, the students participating in this computerized spelling program achieved a higher academic spelling average at the end of the twelve week period than those students who in the past three years had participated in the practicum author's traditionally taught spelling programs. It should also be noted that none of the students in the author's prior three years of classes had been placed in special education classes in the first grade. Finally, the students in the target group expressed a positive attitude toward the spelling program and motivation about computers and spelling was increased at the end of the twelve week implementation period.

CHAPTER V

Recommendations

After the completion of this project, the results have been made available in booklet form to any interested party. The author has continued the use of this information throughout the remainder of the school year to further evaluate the long term affects of intergrating the computer into the spelling program. Any additional information that is gathered based on the long term affects of this project will be made available to any interested parties. The author has provided the school principal with the results, and volunteered to inservice any teacher who would like information on how this proposal can be used to successfully improve students spelling score averages. The author will further contact the district Language Arts Representative and offer all information that has been collected as a result of this practicum.

The author of this proposal recommends that any primary educator who is interested in improving overall spelling

averages and would like to introduce students to the computer, try intergrating the computer into the existing spelling program. As shown in this practicum project, the computerized spelling approach can be successfully accomplished. The results indicate that students are motivated by the computer training, and overall academic achievement in spelling can be increased.

It is recommended that an additional party is available in the computer lab to assist the teacher in starting up and shutting down each student's software. This procedure is time consuming and the author found that students begin to get impatient while waiting for each computer to be prepared. If possible, this author found that it is beneficial for the computer programs to be set up and ready to go before the students inter the computer lab. In addition, this author found that the software Apple Works is difficult for first grade students to learn how to operate. There are many other word processing programs which offer much easier entry and exit procedures which can be used effectively.

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Appendix A

Teacher Distributed Spelling Survey

SPELLING SURVEY

PLEASE CIRCLE ONE: 1 STRONGLY AGREE
2 AGREE
3 DISAGREE

#1 Students are motivated toward the subject spelling.

1 2 3

#2 Based on the expectations of the school districts scope and sequence, overall student spelling academic achievement is adequate.

1 2 3

#3 Computers integrated into the existing spelling program could enhance student motivation toward spelling.

1 2 3

#4 Computers integrated into the existing spelling program could enhance student's academic achievement in spelling.

1 2 3

OVER

#5 Are you currently using computers to teach any part of your existing spelling program?

YES NO

IF YES, PLEASE EXPLAIN HOW HERE:

GRADE TAUGHT_____

THANK YOU FOR YOUR TIME AND COOPERATION!

PLEASE PUT THIS SURVEY IN APRIL HEATH-LEGG'S MAIL BOX!

Appendix B

Teacher Distributed Spelling Survey Results

SPELLING SURVEY RESULTS

KEY: 1 STRONGLY AGREE
2 AGREE
3 DISAGREE

#1 Students are motivated toward the subject spelling.

1=15.38% **2=61.54%** **3=23.08%**

#2 Based on the expectations of the school districts scope and sequence, overall student spelling academic achievement is adequate.

1=7.69% **2=38.46%** **3=53.85%**

#3 Computers integrated into the existing spelling program could enhance student motivation toward spelling.

1=53.85% **2=38.46%** **3=7.69%**

#4 Computers integrated into the existing spelling program could enhance student's academic achievement in spelling.

1=53.85% **2=38.46%** **3=7.69%**

#5 Are you currently using computers to teach any part of your existing spelling program?

YES **NO=100%**

Appendix C

Student Survey

STUDENT SURVEY

CIRCLE ONE ANSWER

#1. The subject that I like the best is:

Math English Spelling Reading

#2. I really like spelling.

Yes No

#3. I really like computers.

Yes No

#4. If I could, I think I would really like to study my spelling words on the computer.

Yes No

#5. I AM IN THE _____ GRADE.

Appendix D

Student Survey Results

STUDENT SURVEY RESULTS

#1. The subject that I like the best is:

Math=53% English=5% Spelling=17% Reading=25%

#2. I really like spelling.

Yes=55% No=45%

#3. I really like computers.

Yes=99% No=1%

#4. If I could, I think I would really like to study my spelling words on the computer.

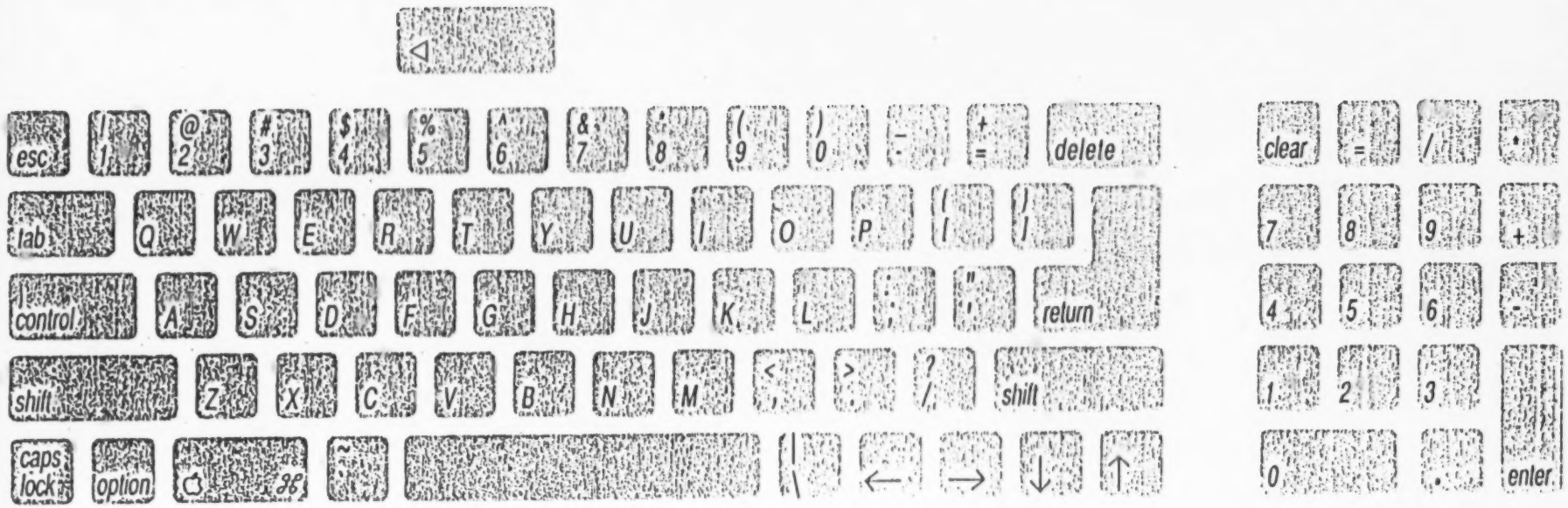
Yes=89% No=11%

#5. I AM IN THE _____ GRADE.

#5. ALL SECOND AND THIRD GRADE STUDENTS IN THE PRACTICUM SCHOOL SITE WERE GIVEN THIS SURVEY. 181 SURVEYS WERE RETURNED. FROM THOSE WHO RESPONDED, 38 PERCENT WERE THIRD GRADERS AND 62 PERCENT WERE SECOND GRADERS.

Appendix E

Zerox Computer Keyboard for Student Use


esc
1 !
2 @
3 #
4 $
5 %
6 ^
7 &
8 *
9 (
0)
- _
= +
delete
tab
Q
W
E
R
T
Y
U
I
O
P
[{
] }
control
A
S
D
F
G
H
J
K
L
; :
' "
return
shift
Z
X
C
V
B
N
M
, <
. >
/ ?
shift
caps lock
option
clear
=
/
*
7
8
9
+
4
5
6
-
1
2
3
0
.
enter

Appendix F

Student Attitude Survey

COMPUTERS AND SPELLING

NAME_____

1. I like going to computer class.

2. I like practicing my spelling words on the computer.

3. I would like to continue to practice spelling on the computer in the second grade.

Appendix G

Student Attitude Survey Results

COMPUTERS AND SPELLING

NAME_____

1. I like going to computer class.

   Yes=91% No=9%

2. I like practicing my spelling words on the computer.

   Yes=86% No=14%

3. I would like to continue to practice spelling on the computer in the second grade.

   Yes=91% No=9%